

1 CLAIMS

1. A decoder, comprising:

a. a synchronous portion, disposed to receive and responsive to a clocked signal;

5 b. an asynchronous portion, coupled with an asynchronous circuit; and

c. a feedback-resetting portion, coupled with the synchronous portion and the asynchronous portion and interposed there between, the feedback-resetting portion substantially isolating the synchronous portion from the asynchronous portion responsive to a predetermined asynchronous reset signal.

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2. The decoder of Claim 1, wherein the feedback-resetting portion substantially isolates the synchronous portion from the asynchronous portion responsive to a predetermined monitor signal.

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3. The decoder of Claim 1, further comprising an inverter and a plurality of buffer stages, selected ones of the plurality of buffer stages having a skew there between reducing load capacitance thereby.

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4. The decoder of Claim 1, wherein the decoder is an asynchronously-resettable row decoder.

5. The decoder of Claim 1, wherein the decoder is an asynchronously-resettable column decoder.

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6. A decoder in a memory module having a plurality of memory cell groups, comprising:

a. a signal input;

b. a first memory output coupled with a first memory cell group;

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- 1 c. a second memory output coupled with a second memory cell group; and
- d. a selector coupled between the signal input, the first memory output, and the second memory output,
- 5 wherein the decoder decodes the first memory cell group, and being disposed to select and decode the second memory cell group responsive to an group-select signal.
7. The decoder of Claim 6, wherein the selector comprises a multiplexer, the multiplexer selecting to decode from one of the first memory cell group and a memory second memory cell, the multiplexer being responsive to the group-select signal.
- 10 7. The decoder of Claim 6, wherein the selector comprises a multiplexer, the multiplexer selecting to decode from one of the first memory cell group and a memory second memory cell, the multiplexer being responsive to the group-select signal.
- 15 8. The decoder of Claim 6, wherein the decoder is a row decoder disposed in a memory module having a plurality of adjacent memory rows, and wherein first memory row and a second memory row are adjacent memory rows in the memory module, and the group-select signal is an alternative-row-select signal.
- 20 8. The decoder of Claim 6, wherein the decoder is a row decoder disposed in a memory module having a plurality of adjacent memory rows, and wherein first memory row and a second memory row are adjacent memory rows in the memory module, and the group-select signal is an alternative-row-select signal.
- 25 9. The decoder of Claim 6, wherein the decoder is a column decoder disposed in a memory module having a plurality of adjacent memory columns, and wherein first memory column and a second memory column are adjacent memory column in the memory module, and the group-select signal is an alternative-column-select signal.
- 30 10. The decoder of Claim 6, wherein the decoder is a row decoder disposed in a memory module having assigned memory rows and a redundant memory row, and wherein the first memory row is an assigned memory row, the second memory row is the redundant memory row and the group-select signal is a redundant-row-select signal.
- 35 10. The decoder of Claim 6, wherein the decoder is a row decoder disposed in a memory module having assigned memory rows and a redundant memory row, and wherein the first memory row is an assigned memory row, the second memory row is the redundant memory row and the group-select signal is a redundant-row-select signal.

- 1 11. The decoder of Claim 6, wherein the decoder is a column
decoder disposed in a memory module having assigned memory
columns and a redundant memory column, and wherein the
5 first memory row is an assigned memory column, the second
memory column is the redundant memory column and the group-
select signal is a redundant-column-select signal.
12. A decoder in a memory module having a plurality of memory
cell groups, comprising:
- 10 a. a synchronous portion, disposed to receive and
responsive to a clocked signal;
- b. an asynchronous portion, coupled with an asynchronous
circuit in a selected memory cell group;
- 15 c. a feedback-resetting portion, coupled with the
synchronous portion and the asynchronous portion and
interposed there between, the feedback-resetting
portion substantially isolating the synchronous
portion from the asynchronous portion responsive to
a predetermined asynchronous reset signal;
- 20 d. a signal input;
- e. a first memory output coupled with a first memory cell
group;
- f. a second memory output coupled with a second memory
cell group; and
- 25 g. a selector coupled between the signal input, the first
memory output, and the second memory output, wherein
the decoder decodes the first memory cell group, and
being disposed to select and decode the second memory
cell group responsive to an group-select signal.
- 30 13. The decoder of Claim 12, wherein the selector comprises a
multiplexer, the multiplexer selecting to decode from one
of the first memory cell group and a memory second memory
cell, the multiplexer being responsive to the group-select
35 signal.

- 1 14. The decoder of Claim 12, wherein the decoder is a row
decoder disposed in a memory module having a plurality of
adjacent memory rows, and wherein first memory row and a
second memory row are adjacent memory rows in the memory
5 module, and the group-select signal is an alternative-row-
select signal.
- 10 15. The decoder of Claim 12, wherein the decoder is a column
decoder disposed in a memory module having a plurality of
adjacent memory columns, and wherein first memory column
and a second memory column are adjacent memory column in
the memory module, and the group-select signal is an
alternative-column-select signal.
- 15 16. The decoder of Claim 12, wherein the decoder is a row
decoder disposed in a memory module having assigned memory
rows and a redundant memory row, and wherein the first
memory row is an assigned memory row, the second memory row
is the redundant memory row and the group-select signal is
20 a redundant-row-select signal.
- 25 17. The decoder of Claim 12, wherein the decoder is a column
decoder disposed in a memory module having assigned memory
columns and a redundant memory column, and wherein the
first memory row is an assigned memory column, the second
memory column is the redundant memory column and the group-
select signal is a redundant-column-select signal.

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